only IEE one-plane readouts give you such versatile displays

NUMERALS AND LETTERS

Up to 12 individual numbers and letters can be displayed, each using one of the 12 available lamps.

RECEIVED OCT 17 1962

DIGITS WITH POLARITY

Up to 10 individual numerals can be combined with a plus or a minus sign, using one lamp for each numeral and one lamp each for the plus and minus signs.

WORDS AND MULTI-DIGITS

Up to 12 individual words or multi-digit numbers can be displayed, each using one lamp.

MODES AND WORDS

Up to 12 mode/word indications can be displayed, each using one lamp; separate mode and word indications can be obtained by using one of the 12 available lamps for each mode and one for each word.

MULTIPLE WORDS

Up to 12 individual words used in combination (each word using one lamp), or up to 12 combination messages using one lamp for each group of words can be displayed.

COLOR EMPHASIS

Color can be added by using one lamp for each color and one lamp for each message, or up to 12 messages combined with color can be displayed, each using one lamp.

SYMBOLS

Any symbol that can be put on film can be displayed, using one of the 12 available lamps for each symbol.

IEE produces the industry's widest line of readout displays with models having maximum character heights from 5/8" to 3 5/8"... front plug-in readouts... Cue Indicator Switches with pushbutton viewing screens... Bina-View self decoding readouts with 38 character capabilities for full alphanumeric display.

IEE rear-projection operation provides bright, distinct displays **all on the same plane** with unused characters completely invisible.

INDUSTRIAL ELECTRONIC ENGINEERS, INC.

5528 Vineland Avenue • North Hollywood, Calif.

Write for your copy of the
IEE Readout Message Designer's Kit
and new full line catalog.

READOUT-MESSAGE DESIGNER'S KIT

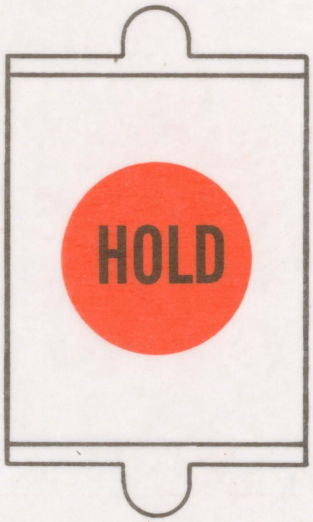
tracing sheet

INSTRUCTIONS FOR USE:

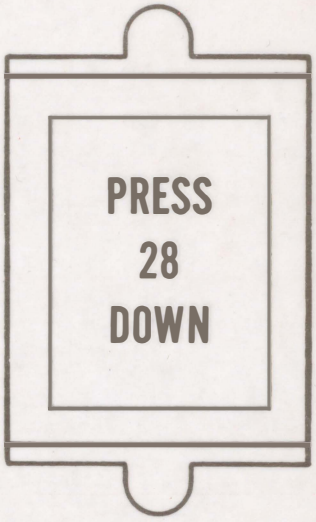
Instructions—For single lamp sample message (Numbers, symbols, and colors also available):

1. Select desired readout outline drawing.
2. Count number of characters in your longest message.
3. Center guide lines on tracing sheet over desired type sample.
4. Count number of characters to be sure message will fit. (All letters except "I" are approximately the same width.)
5. Trace actual message by sliding type sample to appropriate letters. (Use adjacent letters as guide for spacing.)
6. Color indication can be obtained by shading around letters with a colored pencil.

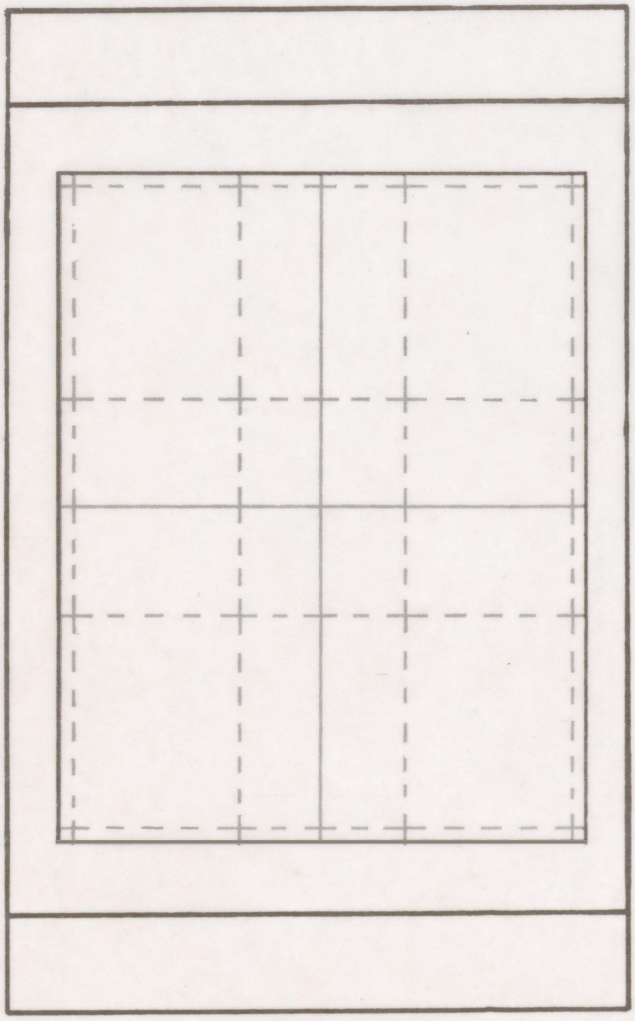
On Terminal Sheet, indicate desired messages for all 12 lamps.



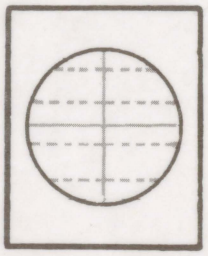
Typical readout message using color. (Can be obtained by either using one lamp for color and a second lamp for message, or by using one lamp for both.)



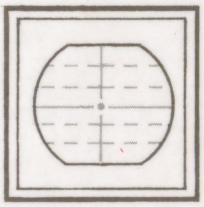
Typical readout message using one lamp to indicate upper word, second lamp for center number, and third lamp for lower word.



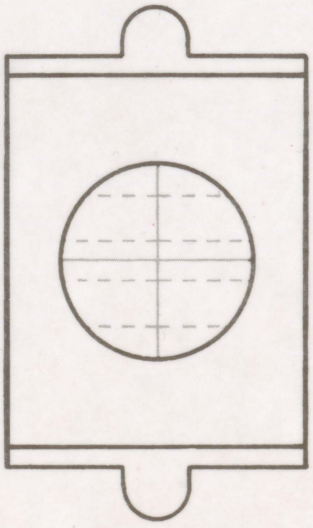
80 000 SERIES



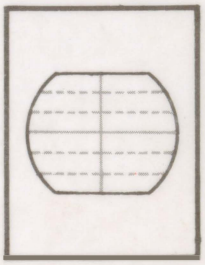
220 000 SERIES



CUE INDICATOR SWITCH



10 000 SERIES



120 000 SERIES

Industrial Electronic Engineers, Inc., 5528 Vineland Avenue, North Hollywood, California • Telephone (213)877-1144

READOUT-MESSAGE DESIGNER'S KIT

tracing sheet

INSTRUCTIONS FOR USE:

Instructions—For single lamp sample message (Numbers, symbols, and colors also available):

1. Select desired readout outline drawing.
2. Count number of characters in your longest message.
3. Center guide lines on tracing sheet over desired type sample.
4. Count number of characters to be sure message will fit. (All letters except "I" are approximately the same width.)
5. Trace actual message by sliding type sample to appropriate letters. (Use adjacent letters as guide for spacing.)
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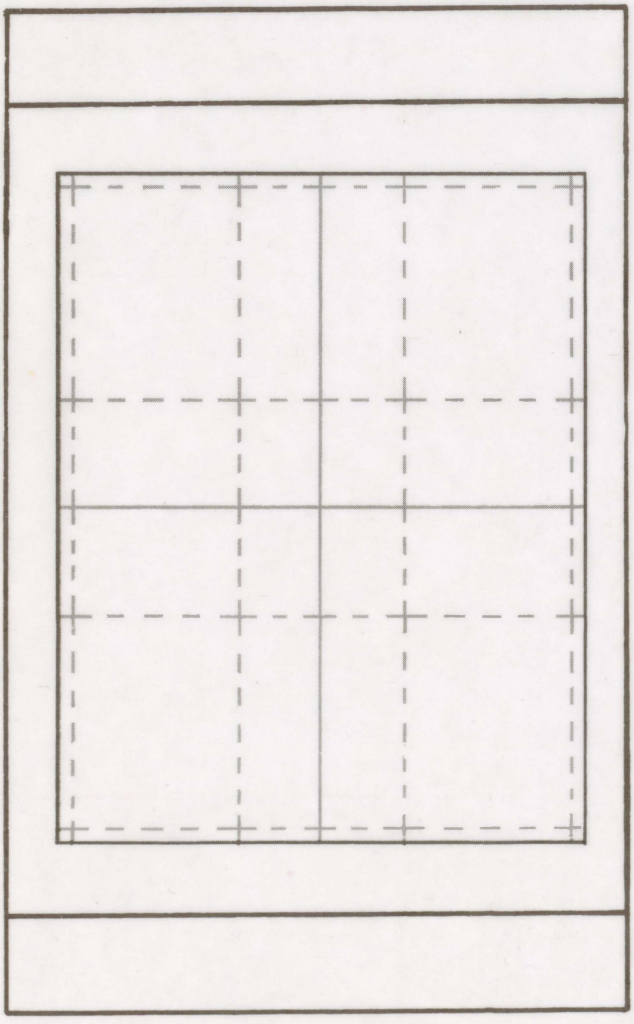
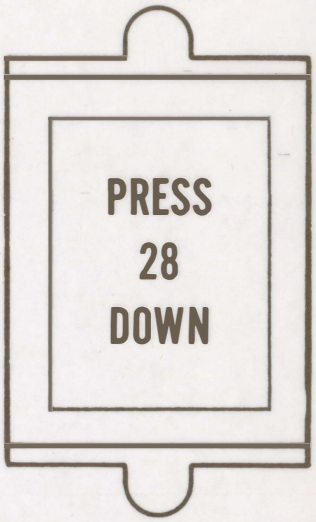
On Terminal Sheet, indicate desired messages for all 12 lamps.

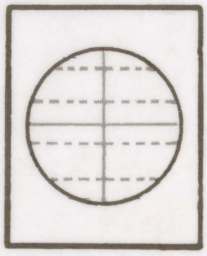


80 000 SERIES

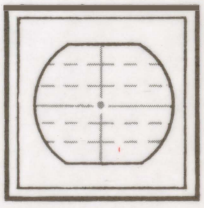
Typical readout message using color. (Can be obtained by either using one lamp for color and a second lamp for message, or by using one lamp for both.)



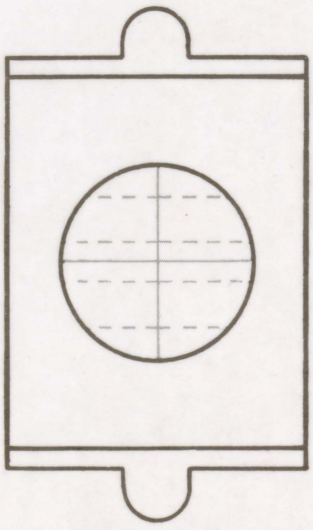
Typical readout message using one lamp to indicate upper word, second lamp for center number, and third lamp for lower word.



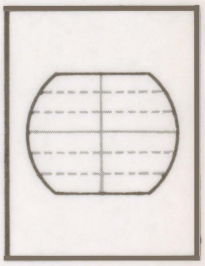
220 000 SERIES



CUE INDICATOR SWITCH



10 000 SERIES



120 000 SERIES

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READOUT MESSAGE DESIGNER'S KIT

sample type sheet & message height finder

Studies indicate that Alternate Gothic #3 type face is the most readable for multiple letter readouts; therefore, this type face is furnished as standard except as noted below. Other type faces, sizes and symbols are available on special order.

Alternate Gothic #3
ABCDEFGHIJKLMNOPQRSTUVWXYZ 1234567890

Futura Medium
ABCDEFGHIJKLMNOPQRSTUVWXYZ 1234567890

Futura Medium Condensed
ABCDEFGHIJKLMNOPQRSTUVWXYZ 1234567890

Futura Demibold
ABCDEFGHIJKLMNOPQRSTUVWXYZ 1234567890

To provide optimum size and readability, these exceptions are made:

10000 Series — Futura Medium style type is supplied for single maximum height (15/16″) numbers only.
Futura Medium Condensed style type is supplied for single maximum height (15/16″) letters only.

120000 Series — Futura Demibold style type is supplied for single maximum height (5/8″) numbers & letters only.

220000 Series — Futura Demibold style type is supplied for single maximum height (5/8″) numbers & letters only.

80000 Series — Futura Medium Condensed style type is supplied for single maximum height (3⅜″) numbers & letters only.

Asterisks in columns indicate standard heights available for each series. (Nominal dimension only; standard tolerance ± .015″)

80000 & 160000	10000	120000	220000	Height Inches
		*	*	.105
	*			.115
		*	*	.140
	*			.153
*			*	.168
		*		.180
	*			.192
			*	.210
*		*		.220
	*			.236
			*	.250
		*		.264
*	*		*	.280
		*		.300
	*			.320
*				.340
			*	.365
		*		.384

80000 & 160000	10000	120000	220000	Height Inches
*	*			.408
			*	.445
*		*		.464
	*			.500
*	*			.590
*				.715
*				.985

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READOUT-MESSAGE DESIGNER'S KIT

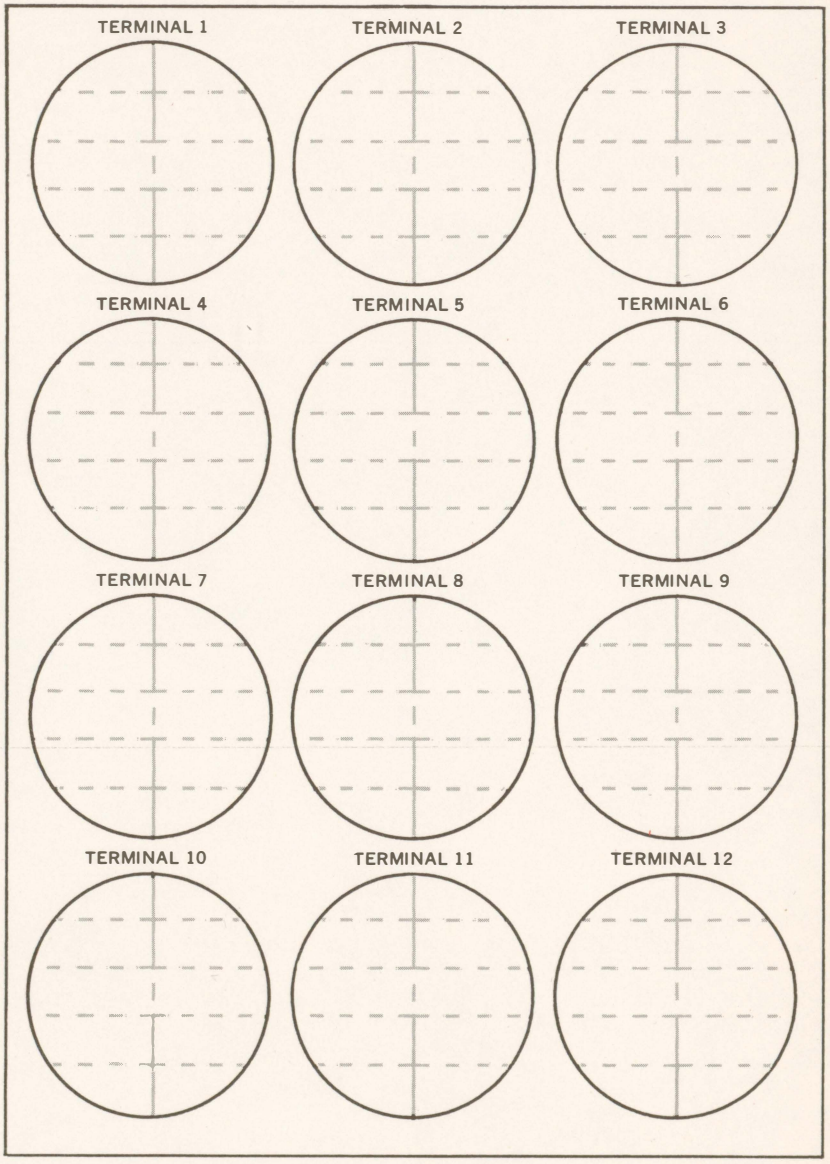
terminal sheet

IEE Readout Series: _____

INSTRUCTIONS FOR USE:

1. Determine message that should appear for each of 12 bulbs.
2. Pencil in words, numbers, colors, and symbols on appropriate terminal spaces corresponding to your electrical circuitry.
3. Indicate desired IEE readout series.
4. Fill out table.

Terminal Number	Character Height	Character Color	Background Color
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			



Position of terminals when looking at readout from rear.
Indicated message will appear on screen when voltage is applied to lamp.

Special Instructions: _____

_____

Date: _____ By: _____
Signature Title:

Company Name and Address: _____ Refer to P.O. # _____

Industrial Electronic Engineers, Inc., 5528 Vineland Avenue, North Hollywood, California • Telephone (213)877-1144

READOUT-MESSAGE DESIGNER'S KIT

terminal sheet

IEE Readout Series: _____

INSTRUCTIONS FOR USE:

1. Determine message that should appear for each of 12 bulbs.
2. Pencil in words, numbers, colors, and symbols on appropriate terminal spaces corresponding to your electrical circuitry.
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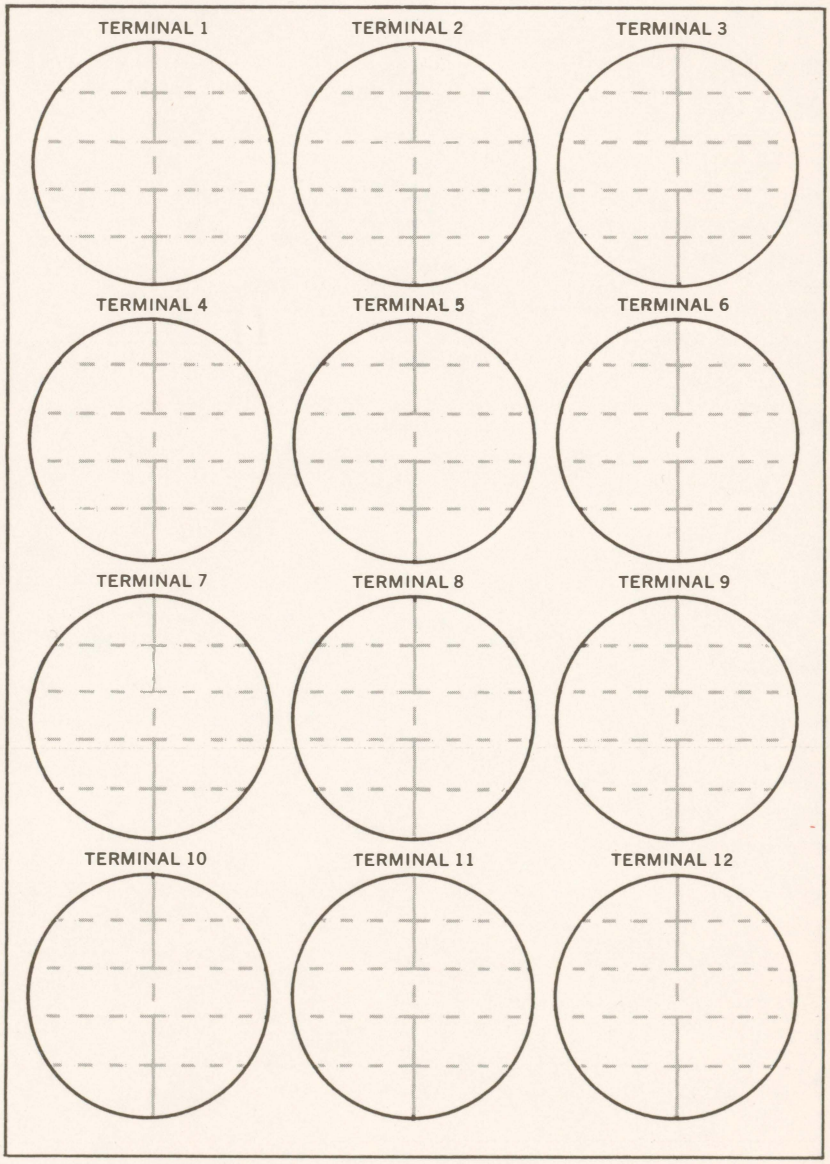
4. Fill out table.



Position of terminals when looking at readout from rear.
Indicated message will appear on screen when voltage is applied to lamp.

Terminal Number	Character Height	Character Color	Background Color
1			
2			
3			
4			
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7			
8			
9			
10			
11			
12			

Special Instructions: _____

_____

Date: _____ By: _____
Signature Title:

Company Name and Address: _____ Refer to P.O. # _____

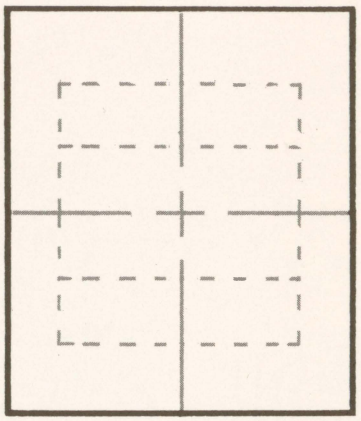
Industrial Electronic Engineers, Inc., 5528 Vineland Avenue, North Hollywood, California • Telephone (213)877-1144

READOUT-MESSAGE DESIGNER'S KIT

bina-view character specification sheet

INSTRUCTIONS FOR USE:

1. Up to 38 messages—one for each character plate—can be specified. Messages can consist of numbers, letters, words, or symbols.
2. Determine messages that are to appear.
3. Letter desired output character in space beside appropriate input code.
4. For pure binary code (32 16 8 4 2 1), the "F" symbol equals weighted value "1." "E" equals "2," "D" equals "4," "C" equals "8," "B" equals "16," and "A" equals "32."
5. Disregard Bit Coil "A" for 5-bit codes; disregard Bit Coil "A" and "B" for 4-bit codes.



	Voltage (DC)	Power (W)
Bit Input Coil:		
Set Pulse Coil:		
Lamp:	(AC/DC)	

BINARY INPUT WEIGHTED VALUE BIT COILS	BINA-VIEW READOUT CHARACTER	BINARY INPUT WEIGHTED VALUE BIT COILS	BINA-VIEW READOUT CHARACTER	BINARY INPUT WEIGHTED VALUE BIT COILS	BINA-VIEW READOUT CHARACTER	BINARY INPUT WEIGHTED VALUE BIT COILS	BINA-VIEW READOUT CHARACTER
A B C D E F		A B C D E F		A B C D E F		A B C D E F	
0 0 0 0 0 0		0 1 0 0 0 0		1 0 0 0 0 0		1 1 0 0 0 0	
0 0 0 0 0 1		0 1 0 0 0 1		1 0 0 0 0 1		1 1 0 0 0 1	
0 0 0 0 1 0		0 1 0 0 1 0		1 0 0 0 1 0		1 1 0 0 1 0	
0 0 0 0 1 1		0 1 0 0 1 1		1 0 0 0 1 1		1 1 0 0 1 1	
0 0 0 1 0 0		0 1 0 1 0 0		1 0 0 1 0 0		1 1 0 1 0 0	
0 0 0 1 0 1		0 1 0 1 0 1		1 0 0 1 0 1		1 1 0 1 0 1	
0 0 0 1 1 0		0 1 0 1 1 0		1 0 0 1 1 0		1 1 0 1 1 0	
0 0 0 1 1 1		0 1 0 1 1 1		1 0 0 1 1 1		1 1 0 1 1 1	
0 0 1 0 0 0		0 1 1 0 0 0		1 0 1 0 0 0		1 1 1 0 0 0	
0 0 1 0 0 1		0 1 1 0 0 1		1 0 1 0 0 1		1 1 1 0 0 1	
0 0 1 0 1 0		0 1 1 0 1 0		1 0 1 0 1 0		1 1 1 0 1 0	
0 0 1 0 1 1		0 1 1 0 1 1		1 0 1 0 1 1		1 1 1 0 1 1	
0 0 1 1 0 0		0 1 1 1 0 0		1 0 1 1 0 0		1 1 1 1 0 0	
0 0 1 1 0 1		0 1 1 1 0 1		1 0 1 1 0 1		1 1 1 1 0 1	
0 0 1 1 1 0		0 1 1 1 1 0		1 0 1 1 1 0		1 1 1 1 1 0	
0 0 1 1 1 1		0 1 1 1 1 1		1 0 1 1 1 1		1 1 1 1 1 1	

Special Instructions:_____

Date:_____ By:_____ Title:_____
Signature

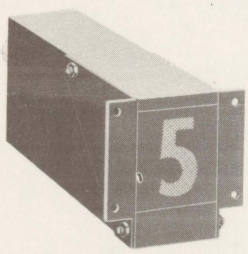
Company Name and Address:_____ Refer to P.O. #_____

Industrial Electronic Engineers, Inc., 5528 Vineland Avenue, North Hollywood, California • Telephone (213)877-1144

BINA-VIEW PRICE SCHEDULE

QUANTITY	BASIC COST OF UNIT LESS CHARACTER PLATES AND CHECK BACK CONTACT CLOSURES						CHARACTER PLATES PRICE EACH	OPTIONAL CHECK-BACK FEATURE
	1 BIT	2 BIT	3 BIT	4 BIT	5 BIT	6 BIT		
	2 PLATES MAX.	4 PLATES MAX.	8 PLATES MAX.	16 PLATES MAX.	32 PLATES MAX.	38 PLATES MAX.		
1-9	$39.25	$43.75	$48.25	$52.75	$59.25	$65.75	$1.25	$17.50
10-24	37.20	41.60	45.85	50.15	56.30	62.50	1.15	16.50
25-49	36.15	40.25	44.30	48.55	54.55	60.50	1.10	16.00
50-99	34.95	38.95	42.95	47.00	52.75	58.55	1.10	15.50
100-249	33.80	37.65	41.55	45.40	51.00	56.60	1.05	15.00
250-499	33.00	36.80	40.55	44.35	49.80	55.25	1.05	14.50
500-999	32.25	35.95	39.60	43.30	48.65	53.95	1.00	14.25
1,000 & over	31.45	35.05	38.65	42.25	47.45	52.65	1.00	14.00

Cost for color on any Bina-View is the basic unit cost, plus one character plate for each color and $3.50 additional for each color. Decimal points, commas, apostrophies, or underlines are available at $5.00 each.



BINA-VIEW

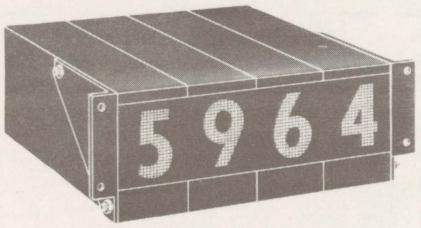
Translates coded binary to decimal, alphabetic, or alpha-numeric display. Maximum character size 1⅜ inches.

REPLACEMENT LAMP PRICE SCHEDULE	
LAMP NUMBER	PRICE OF EACH
No. 1855	$ .20
No. 1495	.26

INSTRUCTIONS: To determine cost of each Bina-View Display Unit, select basic cost depending on number of bits required, and then add the price of the total character plates in the unit, plus the check-back feature cost, if applicable. As an example, a complete Alpha-Numeric unit would require 36 character plates (0-9 and A-Z). The base price would be $65.75 plus $1.25 times 36 or $110.75 total.

ASSEMBLIES:

The above individual models can be assembled into groups of 2 through 8 units in any sequence at no additional charge. For assemblies of more than 8 units, please consult the factory.



SPECIAL NOTE: The above prices apply only to the standard Bina-View models and standard characters shown on the reference chart on the reverse side. For special codes and/or characters not listed on the standard reference chart or previously purchased, a non-recurring artwork charge is necessary for each character plate. For information on these charges, consult your local representative or contact the factory directly.

QUANTITY DISCOUNTS ON EXTENDED SHIPMENTS

Quantity discounts may be applied to orders on an extended shipment basis where the following conditions are met.

1) To break an order down into more than one shipment, the order must total 100 or more display units.

2) Each shipment must equal at least 10% of the total order or 25 units (whichever is larger).

3) Shipments on a particular order must be completed within 12 months from receipt of order.

4) Quantity orders cancelled before completion will be billed at prices based on the price schedule for the number of displays actually shipped. All prices subject to change without notice.

NOTES:

1) MINIMUM BILLING—$5.00 per order.

2) GOVERNMENT SOURCE INSPECTION—1% of order or $2.50 minimum, whichever is greater.

3) F.O.B. POINT—All prices are F.O.B. our plant, North Hollywood, California.

4) TERMS—net 30 days.

5) DELIVERY—For standard display units, two weeks to 30 days depending upon quantity. For special display units, 30 to 45 days after receipt of order.

6) STANDARD TERMS AND CONDITIONS—"Positively no products may be returned without factory authorization. All claims must be made within 10 days after receipt of goods."

TYPICAL MODEL NUMBERS

UNIT NO. AA (A) 6 (B) / 12 (C) – 001 (D) – 1855 (E) – C (F)

ASSEMBLY NO. AA0007 (G) -1855 (E) – C (F)

- **A.** Series Number.
- **B.** Signal Input Coil Voltage.
- **C.** Set-Pulse Coil Voltage.
- **D.** Model Number (see reverse side).
- **E.** Lamp Number.
- **F.** Optional Check Back Feature
- **G.** Number assigned by factory for a particular grouping of models.

industrial electronic engineers, inc.

5528 VINELAND AVENUE, NORTH HOLLYWOOD, CALIFORNIA • PHONE (AREA 213) 877-1144 TWX NO. 769-1636

ENGINEERS and MANUFACTURERS COMPONENTS • INSTRUMENTS

INDUSTRIAL ELECTRONIC ENGINEERS, INC.
5528 Vineland Avenue
North Hollywood, California

ORDERING REFERENCE CHART FOR STANDARD BINA-VIEW DISPLAY UNITS

	CODE 32-16-8-4-2-1	MODEL NUMBER, CODE NAME, AND CHARACTER ASSIGNMENT																				
		001	002	003	004	005	006	007	015	017	117	118	089	090	091	093	101	119	083	105	111	126
		Pure Binary	2421	Excess Three	Cyclic Grey	7421	5421	Pure Binary		Baudot												Tele-Type
1-4 BIT INPUT	0 0 0 0 0 0	0	0		0	0		0	+			0		0	0	0			0	ACV	0	
	0 0 0 0 0 1	1	1		1	1	1	1	–	3	A	1		1	1	1			1	DCV	1	E
	0 0 0 0 1 0	2	2		3	2	2	2			B	2		2	2	2	E		2	VOLTS	2	
	0 0 0 0 1 1	3	3	0	2	3	3	3			C	3		3	3	3			3	SEC	3	A
	0 0 0 1 0 0	4	4	1	7	4	4	4			D	4		4	4	4			4	OHMS	4	
	0 0 0 1 0 1	5		2	6	5	0	5			E	5		5	5	5			5	CPS	5	S
	0 0 0 1 1 0	6		3	4	6		6		8	F	6		6	6	6	A		6		6	I
	0 0 0 1 1 1	7		4	5			7		7	G	7		7	7	7	0	½	7		7	U
	0 0 1 0 0 0	8		5		7	5	8			H	8		8	8	8			8		8	
	0 0 1 0 0 1	9	+	6		8	6	9			I	9		9	9	9			9		9	D
	0 0 1 0 1 0		–	7		9	7			4	J	10					S		A		10	R
	0 0 1 0 1 1		5	8			8				K	11						¾	B		11	J
	0 0 1 1 0 0		6	9	8		9				L	12					I		C		12	N
	0 0 1 1 0 1		7		9						M	13						¾	D		13	F
	0 0 1 1 1 0	+	8	+	+	+	+				N	14					U		E		14	C
	0 0 1 1 1 1	–	9	–	–	–	–				O	15					I		F		15	K
5 BIT INPUT MINIMUM	0 1 0 0 0 0									5	P	16										T
	0 1 0 0 0 1										Q	17										Z
	0 1 0 0 1 0										R	18			S		D	¼				L
	0 1 0 0 1 1									2	S	19	0		T			¾				W
	0 1 0 1 0 0										T	20	1	A	U		R	¼				H
	0 1 0 1 0 1									6	U	21	2	B	V			¾				Y
	0 1 0 1 1 0									0	V	22	3	C	W		J					P
	0 1 0 1 1 1									1	W	23	4	D	X		2					Q
	0 1 1 0 0 0									9	X	24	5	E	Y		N	¼				O
	0 1 1 0 0 1										Y	25	6	F	Z							B
	0 1 1 0 1 0										Z	26	7	G			F					G
	0 1 1 0 1 1											27	8	H								
	0 1 1 1 0 0											28	9	I			C					M
	0 1 1 1 0 1											29										X
	0 1 1 1 1 0											30					K					V
	0 1 1 1 1 1																3					
6 BIT INPUT MINIMUM	1 0 0 0 0 0												A			A	T					
	1 0 0 0 0 1												B		J	B						3
	1 0 0 0 1 0												C		K	C	Z	¼				
	1 0 0 0 1 1												D		L	D						
	1 0 0 1 0 0												E	J	M	E	L	½				
	1 0 0 1 0 1												F	K	N	F						
	1 0 0 1 1 0												G	L	O	G	W					8
	1 0 0 1 1 1												H	M	P	H	4					7
	1 0 1 0 0 0												I	N	Q	I	H	½				
	1 0 1 0 0 1												J	O	R	J						
	1 0 1 0 1 0												K	P		K	Y					4
	1 0 1 0 1 1												L	Q		L						
	1 0 1 1 0 0												M	R		M	P					
	1 0 1 1 0 1												N			N						
	1 0 1 1 1 0												O			O	Q					
	1 0 1 1 1 1												P			P	5					
	1 1 0 0 0 0												Q			Q	O					5
	1 1 0 0 0 1												R		A	R		½				
	1 1 0 0 1 0												S		B	S	B					
	1 1 0 0 1 1												T		C	T						2
	1 1 0 1 0 0												U		D	U	G					
	1 1 0 1 0 1												V	S	E	V						6
	1 1 0 1 1 0												W	T	F	W						0
	1 1 0 1 1 1												X	U	G	X	6					1
	1 1 1 0 0 0												Y	V	H	Y	M					9
	1 1 1 0 0 1												Z	W	I	Z						
	1 1 1 0 1 0													X			X					
	1 1 1 0 1 1													Y								
	1 1 1 1 0 0													Z			V					
	1 1 1 1 0 1																					
	1 1 1 1 1 0																					
	1 1 1 1 1 1																7					
PRICE	1-9 QUANTITY	$67.75	$67.75	$67.75	$67.75	$67.75	$67.75	$65.25	$41.75	$71.75	$91.75	$98.00	$110.75	$110.75	$110.75	$110.75	$108.25	$80.75	$72.75	$60.25	$72.75	$110.75

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PRICE SCHEDULE

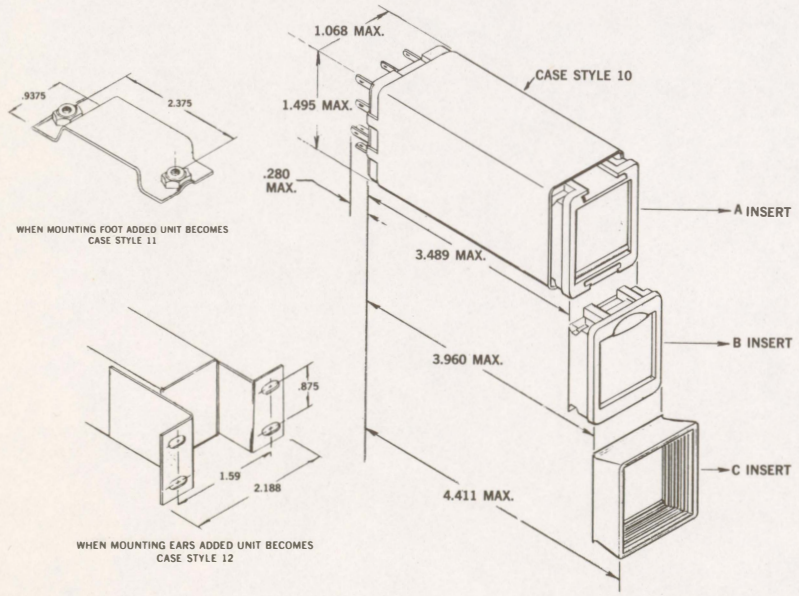
SERIES 220ooo and 230ooo FRONT PLUG-IN DISPLAYS

Series No.	COMBINED QUANTITY							
	1 to 9	10 to 24	25 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1000 & over
220ooo—10	$40.00	$37.00	$35.00	$34.00	$33.00	$32.00	$31.00	$30.00
220ooo—11	41.25	38.25	36.00	35.00	34.00	33.00	32.00	30.75
220ooo—12	41.50	39.50	36.25	35.25	34.25	33.25	32.25	31.00
220ooo—10S	45.00	41.75	39.50	38.25	37.00	35.75	34.75	33.50
220ooo—11S	46.25	43.00	40.50	39.25	38.00	36.75	35.75	34.25
220ooo—12S	46.50	43.25	40.75	39.50	38.25	37.00	36.00	34.50

Above Units Available with Type A "Sub-Panel" Insert, Type B "Panel" Insert, or Type C "Bezel" Insert

ASSEMBLIES (Series 230ooo)		Amount Extra per Unit	Amount Extra per Assembly
Assemblies of 2 through 8 series 220ooo—10 units may be provided with mounting hardware. For more than 8 unit assemblies consult the factory.	230ooo—A	$ 1.50	$ 7.50
	230ooo—B	1.50	None
	230ooo—C	1.50	None

The 220ooo Series Front Plug-In Displays have inserts which are completely removable from the front for easy lamp replacement or exchange of inserts. To remove an insert from its case, simply press the viewing screen until the latch spring clicks and releases. The insert is then withdrawn from the case and may be replaced by pressing it in until the latch engages. The 3 available inserts and case styles are illustrated below.



REPLACEMENT LAMP PRICE SCHEDULE	
Lamp No.	Price Each
327	$ .58
328	.45
330	.65
349	.45

MODEL NUMBERS

Single Unit: 220 | 139 – B | S – 328 – 11 | S
(A B C D E F D)

Assemblies: 230 | 477 – A — 328 — 10
(A G C E H)

Complete model numbers should be designated on all orders. Breakdowns are provided showing the information included in typical model numbers for both single units and assemblies.

A. Series Number (Type of Unit).
B. Designates film for character display. Standard film numbers listed in catalog; numbers for specials obtained from factory.
C. Type of insert (A, B, or C).
D. Designates socket assembly with separate ground terminal provided for each lamp (optional). If separate ground is not specified; unit is furnished with common ground.
E. Lamp number.
F. Case style.
G. Identifying number assigned by the factory for a particular grouping of models.
H. Case style (10 only for assemblies).

NOTES

1. MINIMUM BILLING — $5.00 per order.
2. GOVERNMENT SOURCE INSPECTION — 1% of order or $2.50 minimum, whichever is greater.
3. F.O.B. POINT — All prices are F.O.B. our plant North Hollywood, California.
4. TERMS — net 30 days.
5. DELIVERY — For standard display units, 30 days depending upon quantity. For special display units, 30 to 45 days after receipt of order.
6. STANDARD TERMS AND CONDITIONS — "Positively no products may be returned without factory authorization. All claims must be made within 10 days after receipt of goods."
7. SET-UP CHARGE: Standard models as listed in Catalog No. 101 are available at the above prices. An additional charge of $40.00 is required for other models to cover the cost of art and master film which is kept on file for 12 months from its last use. Reorders within this period will not incur the $40.00 initial set-up charge.

QUANTITY DISCOUNTS ON EXTENDED SHIPMENTS

Quantity discounts may be applied to orders on an extended shipment basis where the following conditions are met.

1. To break an order down into more than one shipment, the order must total 100 or more display units.
2. Each shipment must equal at least 10% of the total order or 25 units (whichever is larger).
3. Shipments on a particular order must be completed with 12 months from receipt of order.
4. Quantity orders cancelled before completion will be billed at prices based on the price schedule for the number of displays actually shipped. All prices subject to change without notice.

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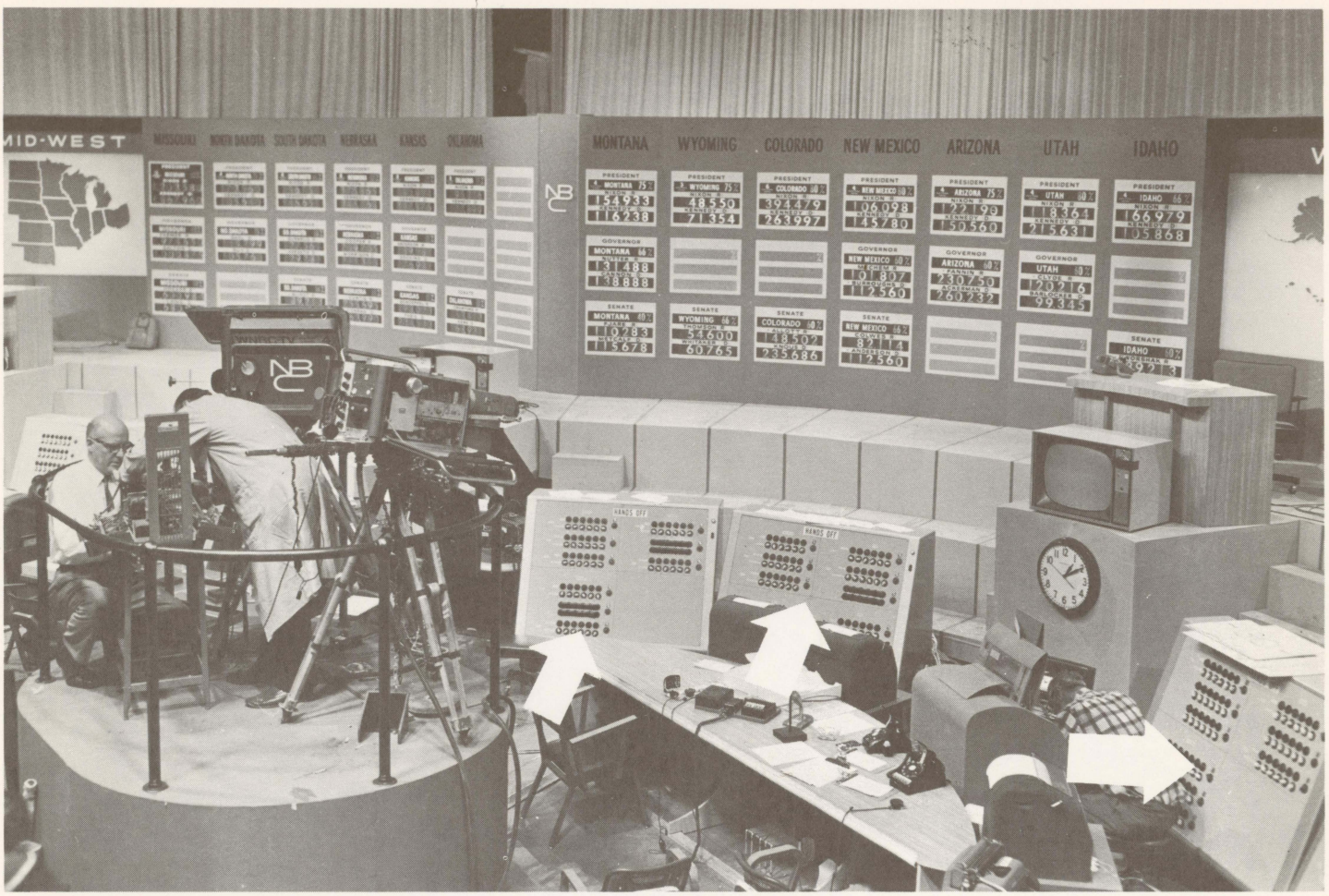
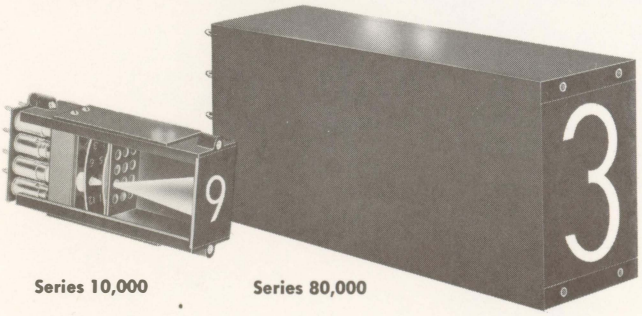


Photo shows how NBC used IEE Readouts in 1960 Presidential Election. Additional units have been furnished to both NBC and ABC for the General Election, November 6th. Switching Control Consoles in foreground, shown by arrows, are also built by IEE.

IEE READOUTS USED IN NOV. 6 GENERAL ELECTION



Series 10,000 **Series 80,000**

Industrial Electronics Engineers' versatile line of *Rear-Projection* type displays has pioneered the field of readout communications. Each unit is capable of displaying up to 12 individual numbers, letters, symbols, words, or colors, each using one of 12 available lamps. Units available with character heights from 5/8" to 3 5/8". Complete line includes Cue Indicator Switches, with pushbutton viewing screen and the Bina-View, which translates coded binary to decimal, alphabetic, or alpha-numeric display with 38 character capabilities.

Both ABC and NBC television networks use control consoles and display units designed and manufactured by Industrial Electronic Engineers in the General Election. The readout display facilities of both networks have been greatly expanded from their original application in the 1960 Presidential Election. 12 new consoles were built for ABC, each accommodating 128 Series 10,000 Readouts. NBC is using 11 new consoles with 180 Series 80,000 Readouts per console. All switching controls, cabling, and wiring were furnished by IEE. All of the equipment for ABC is being used in New York, while NBC has units in New York, Philadelphia, Washington, D.C., Detroit, San Francisco, Chicago, and Los Angeles to provide coverage of local returns. Data obtained from computers is given to operators at the Switching Consoles who control the displays and present total votes, percentages, projections, etc.

After elections the readouts and consoles continue to be used by the stations for time and weather reports; presentation of data on newscasts, score displays on quiz shows and number game programs, etc.

FOR COMPLETE INFORMATION ON IEE READOUTS CONTACT YOUR LOCAL REPRESENTATIVE OR WRITE DIRECT TO IEE

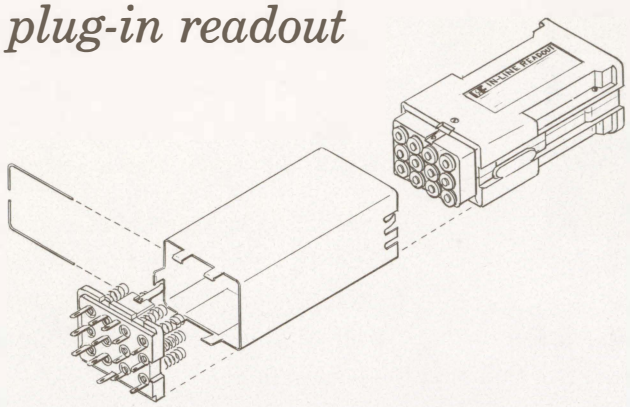
INDUSTRIAL ELECTRONIC ENGINEERS, INC.

Representatives in Principal Cities

5528 Vineland Avenue, North Hollywood, California

series 220ooo

front plug-in readout



ONE-PLANE

C

ACTUAL SIZE OF VIEWING SCREEN AND MAXIMUM CHARACTER SIZE

IEE Series 220ooo front plug-in readouts permit quick, easy lamp replacement, allow permanent wiring and eliminate the need for flexible cabling.

To remove a readout, it is necessary only to release the latching spring by pressing on the viewing screen until the insert snaps. The readout then can be withdrawn from the front of its case for convenient bulb replacement, or for changing readout inserts.

Series 220ooo miniature readouts use the rear-projection principle. When one or more of the 12 lamps in the rear of the unit lights, the corresponding message is projected onto the viewing screen in front. Colors, polarity, words, multi-digit numbers and symbols are available in addition to numerals and letters.

SPECIFICATIONS:

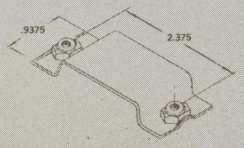
DIMENSIONS: 1 1/16 in. wide, 1 1/2 in. high.
WEIGHT: 4.5 oz. per unit.
COLOR PROJECTIONS AVAILABLE: White (Standard), Amber, Yellow, Blue, Red, Green.
COMMON LAMP TERMINAL: Insulated from case. (Separate grounds available on special order.)
CASE: 24 ga. steel.
INSERT BODY: Glass-filled nylon.
INPUT: Straight decimal system.
VIEWING ANGLE: Both vertical and horizontal:
160° included angle, V-line viewing screen (Standard).
175° included angle, V-1 viewing screen (Optional).
CHARACTER SIZE: Any character or message within an .8 in. diameter circle.
VOLTAGE: Determined by lamps. (see table below)

LAMP SELECTION TABLE

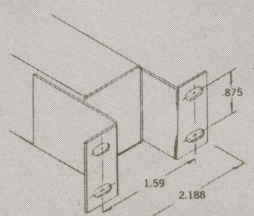
Lamp No.	Voltage v	Current ma	Wattage w	Life at Rated v Hours	Average Character Brightness**
*328	6	200	1.20	500	20
349	6	200	1.20	5000	15
330	14	80	1.12	750	8
327	28	40	1.12	1000	12

*Recommended for optimum brilliance and clarity.

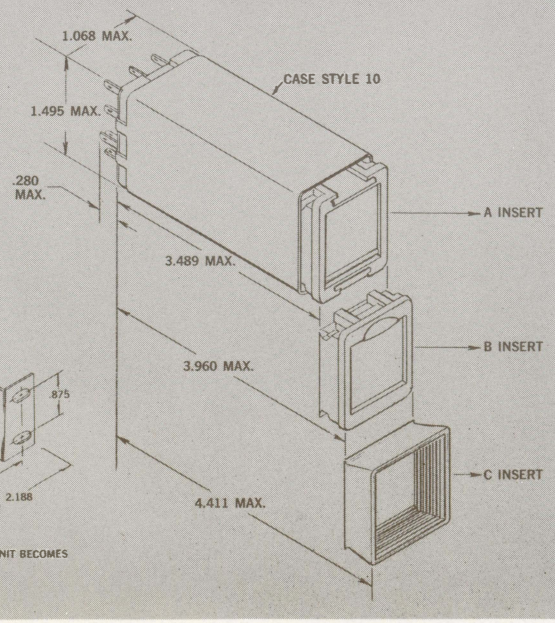
**Values in foot lamberts as measured with a spot-light meter.



WHEN MOUNTING FOOT ADDED UNIT BECOMES CASE STYLE 11



WHEN MOUNTING EARS ADDED UNIT BECOMES CASE STYLE 12



assembly · series 230ooo

Inserts easily removed from the front for replacing inserts or lamp replacement.

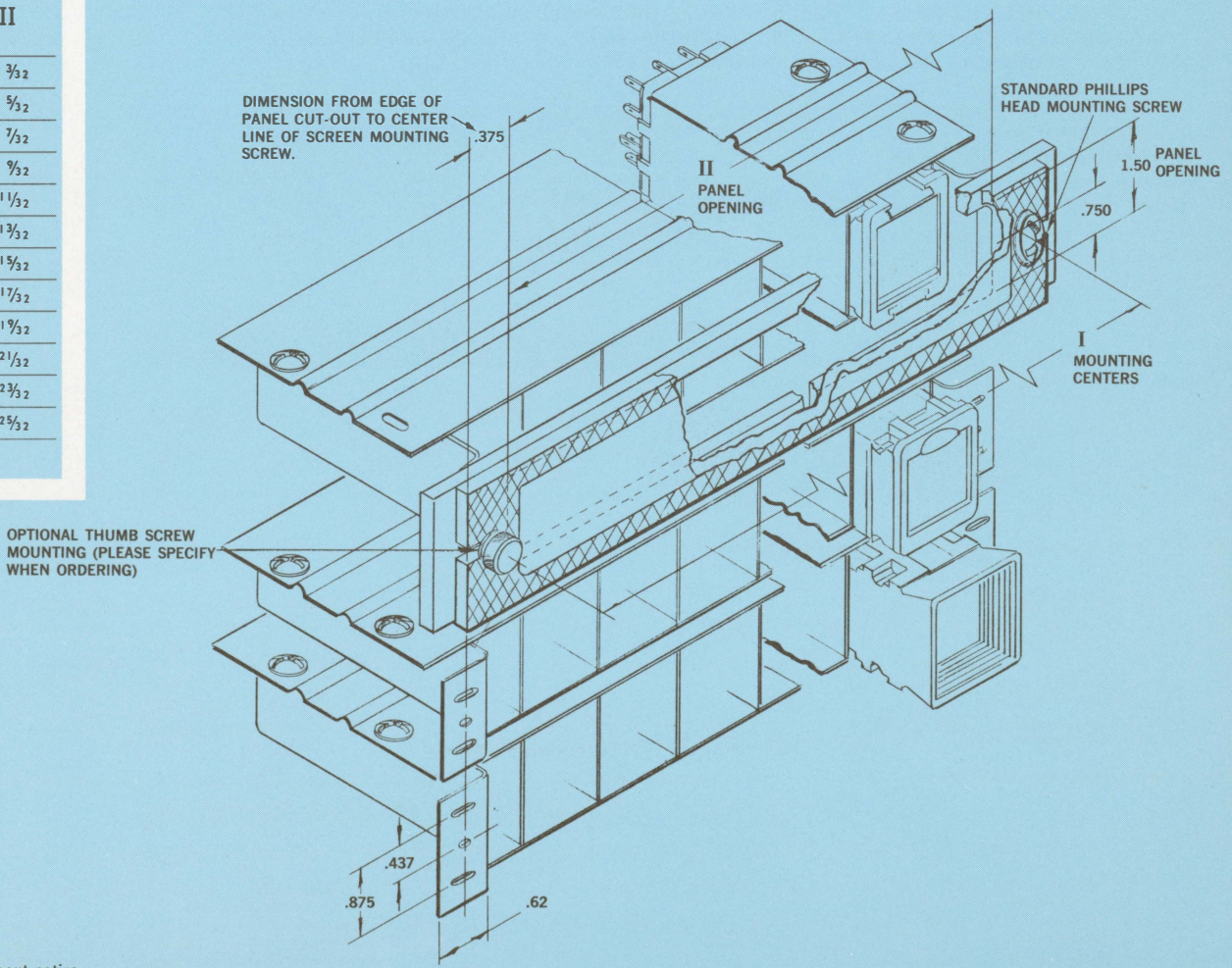
Series 230ooo Assemblies are composed of individual Series 220ooo units. Several screen arrangements are available . . . sub-panel mounting with common screen (Series 230ooA), panel mounting with individual screens (Series 230ooB) and panel mounting with individual bezels (Series 230ooC).

Series 230ooo assemblies can be wired permanently into place. Front accessibility for bulb replacement or for changing inserts eliminates the need for access doors and special cabling. Access to the individual units behind the 230ooA common screen is accomplished easily by removing the two screws that hold the screen in place.

When ordering, the proper sequence of individual display units within the assembly should be listed from left to right as seen when looking at the viewing screens.

No. of Units per Assem.	I	II
1	$1\frac{27}{32}$	$1\frac{3}{32}$
2	$2\frac{29}{32}$	$2\frac{5}{32}$
3	$3\frac{31}{32}$	$3\frac{7}{32}$
4	$5\frac{1}{32}$	$4\frac{9}{32}$
5	$6\frac{3}{32}$	$5\frac{11}{32}$
6	$7\frac{5}{32}$	$6\frac{13}{32}$
7	$8\frac{7}{32}$	$7\frac{15}{32}$
8	$9\frac{9}{32}$	$8\frac{17}{32}$
9▲	$10\frac{11}{32}$	$9\frac{19}{32}$
10▲	$11\frac{13}{32}$	$10\frac{21}{32}$
11▲	$12\frac{15}{32}$	$11\frac{23}{32}$
12▲	$13\frac{17}{32}$	$12\frac{25}{32}$

▲Special Assembly, Contact I.E.E.



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